Remarks:

1. An Office Action was issued on September 8, 2004. At that time, claims 32-50 were pending, with claims 48-50 withdrawn from examination according to the election filed on June 22, 2004. Applicant appreciates Examiner's careful examination of the claims and replies to the Election/Restriction and Claim Rejections as follows:

2. **Restriction Requirement of June 4, 2004:** In an Office Action dated June 4, 2004, Examiner defined Species I as encompassing claims 32 – 47 and Species II as encompassing claims 48 – 50. Applicant elected Species I and properly requested examination of claims 32 – 47. In the Office Action of September 8, 2004, Examiner asserted that claims 39 – 41 are drawn to the non-elected Species II and further asserts that an election was made to withdraw these claims without traverse in the reply filed on June 22, 2004. Applicant respectfully submits that these assertions do not agree with the statements made in the Office Action of June 4, 2004, nor in the response filed on June 22, 2004. Applicant was not informed in the Office Action of June 4, 2004, that claims 39 – 41 were drawn to Species II and, when responding to that Office Action and electing Species I, did not withdraw these claims from examination. Furthermore, Applicant submits that claim 32 is generic to claims 39 – 41. Accordingly, Applicant requests that these claims be examined.

3. **Telephone Interview with Examiner on October 5, 2004:** Applicant requested and was granted a telephone interview with Examiner. The interview took place on October 5, 2004. The topic of discussion was the commonly accepted definition of "vertex" and, particularly, whether the use of the term "vertex" with regard to the partial spheres of Chamberlain was appropriate. Applicant provided Examiner with definitions and interpretations of the terms "cone" and "sphere" prior to the interview, to provide a basis for the discussion. The term "cone" as used in the Specification and as shown in the Drawings of the present application describes a structure that has a flat base with a wall defined by a straight line (generatrix) that intersects a second straight line (directrix

or axis) as the generatrix is rotated 360 degrees about the axis, at a certain fixed angle. *See* FIGS. 5, 6, 7, and 15. Applicant asserts that the term "vertex" as used and illustrated in the present application, and as commonly understood, is the peak of a cone. Examiner asserts that the partial spherical section of Chamberlain, were it to be placed on a flat horizontal surface, has a vertex at the highest point of the partial spherical structure. The vertex of a cone is defined relative to the base and axis of the cone; whereas the "vertex" of the partial spherical section of Chamberlain is defined by the center point of a sphere. Applicant asserts that a structure constructed from the partial spherical sections of Chamberlain, for example, will be a partial or a complete sphere, as shown in Chamberlain, with each point on the surface of the structure equidistant from a fixed center point of a sphere that is defined by the radius of curvature of the partial spherical sections. A structure constructed of the conical elements of the present application may take on any of an infinite number of polyhedral shapes. Assuming one were constructing a dome-like structure with the conical elements of the present application, a first point at the vertex of any one cone and a second point on the surface of the same cone would not be equidistant from a fixed center point of the structure. Examiner agreed that the cone, being a three-dimensional solid with a wall defined by a straight line (generatrix) that extends from the base of the cone and intersects a straight line that is the axis (or directrix) of the cone defines an element that is different from the partial spherical section of Chamberlain and suggested that language be incorporated into the claim to more clearly define the straight walls of the cone.

4. **Amendments to the Claims:** Claim 32 has been amended to include language that defines the cone wall as extending as a straight line from the cone base to the vertex. Language describing the distance and displacement between any "two vertexes" was replaced with language reciting the distance and displacement between any two cone bases. In claims 33, 39, 40, 42, and 45 the language referring to "narrow end" and "wide end" was amended to conform to the terms "vertex" and "cone base" as used in

claim 32. In claim 33, the language introducing the "element length" was deleted and inserted into claim 37. In claim 34, language describing the "overlap" was deleted as redundant to language in claim 33. Claim 35 was amended to correct an obvious typing error ("conical" inadvertently omitted from the first occurrence of the term "fourth (conical) element), and language added describing the overlap of the circular base over a portion of the cone wall. Claim 36 was amended merely to simplify the language. Claims 37 and 38 were amended to include language from claim 32 defining the element length. The language in claim 39 was simplified in view of the amended description of the cone in claim 32. These amendments are supported by FIGS. 4, 5, 7 and 8 as originally filed. None of the amendments to the claims introduces new subject matter and Applicant respectfully requests that the amended claims 32 – 40, 42, and 45 be approved and entered for consideration.

5. **Rejection under 35 U.S.C. § 102(b):** Examiner rejected claims 32 – 36, 42 – 44, and 46 – 47 under 35 U.S.C. § 102(b) as being anticipated by Chamberlain (4270320). Chamberlain discloses a structure made of partial spherical elements. Each point on the surface of a partial spherical element is equidistant from a certain common point, that point being the center of a sphere having a radius that determines the radius of curvature of the partial spherical elements. If a partial spherical structure is constructed, the "structure or building **20** is a geometrically perfect sphere which is cut off along a truncation plane." See Chamberlain, column 3, lines 14 – 28. The truncation line is the bottom of the structure that rests upon a foundation. If sufficient elements are assembled to provide a completely enclosed structure, that structure would be a perfect sphere. Chamberlain, col. 3, lines 34 – 35. As illustrated in the figures 1 – 7 of the Chamberlain disclosure, each element is evenly curved in all directions.

6. Examiner refers to the spherical elements of Chamberlain as "cones" having "vertexes." See the discussion above of the telephone interview. Claim 32, as presently amended, now recites a conical element having a cone base, a cone wall, and

a vertex, wherein the cone wall is defined by the surface created by a number of straight lines that extend from the base and intersect each other at the vertex.

7. Applicant respectfully submits that Chamberlain does not disclose an element having the claimed cone structure and, thus, does not anticipate the structure of the present application as claimed in claim 32. Accordingly, claim 32 and all other claims depending from claim 32 contain allowable subject matter and Applicant therefore requests that Examiner withdraw his rejection under 35 U.S.C. § 102(b) and allow all claims currently presented.

8. **Rejection under 35 U.S.C. § 103(a):** Examiner rejected claims 37 and 38 as being unpatentable over Chamberlain. Claims 37 and 38 depend indirectly from claim 32, which contains allowable subject matter. Accordingly, both of these claims contains allowable subject matter. Applicant respectfully requests that Examiner withdraw his rejection under 35 U.S.C. § 103(a) and allow this claim.

9. Examiner further rejected claim 45 as being unpatentable over Chamberlain in view of Fuller (2,682,235). Examiner asserts that Chamberlain shows all the claimed limitations, except for the conical elements being arranged with the vertex of some of the conical elements facing outward and some facing inward, but that Fuller discloses a spherical structure with the vertex of some of the conical elements facing outward and of some facing inward. Applicant respectfully submits that Chamberlain does not show all the claimed limitations of the claimed geodesic structure, except for the conical elements as claimed in Claim 32, and that Fuller does not at all show an arrangement of conical elements with the vertex of some of the conical elements facing inward and some facing outward, so as to form a shell having an irregular shape. Fuller discloses the use of a grid structure built along great circle lines, with triangular panels filling out the equilateral triangular spaces in the grid. The arrangement of the triangular panels forms a combination of pentagonal and hegonal assemblies, with a vertex formed where the five or six corners of the triangular panels meet. Unlike the cone element of the

present application, wherein each element has inherently one vertex, the triangular panels of Fuller form a vertex only when they adjoin four or five other triangular panels, respectively, to form the hexagonal or pentagonal assembly. Thus, each of the triangular panels in the Fuller structure forms a vertex with a first set of adjoining panels, that vertex pointing outward, and two vertexes with other sets of adjoining panels, those vertexes pointing points inward. These hexagonal or pentagonal assemblies are then arranged with the "vertex" offset to form a sphere with a "dimpled" surface, not an irregular shape. Applicant submits that the combined teachings of Chamberlain and Fuller do not disclose an irregular-shaped structure made of conical elements (each element having only one vertex) as claimed in the present application, with the vertex of some of the elements of the structure pointing inward and the vertex of some of the elements of the same structure pointing outward.

10. Applicant further notes that claim 45 depends from claim 32, which contains allowable subject matter. Since dependent claims contain all the elements and limitations of the base and intervening claims, claim 45 also contains allowable subject matter. Accordingly, Applicant requests that Examiner withdraw his rejection of claim 45 under 35 U.S.C. § 103(a) and allow this claim.

11. Applicant has amended claim 32 to more clearly recite a cone structure with a vertex and a cone wall formed by a straight line that extends fro the base to the vertex. Language was amended in the dependent claims, commensurate with the amendment to claim 32. Applicant also asserts that claims 39 – 41 were not withdrawn without traverse in the June 22, 2004, response to the restriction requirement of June 4, 2004. Applicant has addressed each of the rejections raised by Examiner and now asserts that the claims as currently amended, contain allowable subject matter. Applicant therefore respectfully requests that Examiner allow these claims.

Respectfully submitted,

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